

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 1, 1995
Date Received: November 27, 1995
Project: Reventment Free Liquids, PO #M51441
Date Samples Extracted: November 27-29, 1995
Date Extracts Analyzed: November 27-29, 1995

**RESULTS FROM THE ANALYSIS OF THE PROCESS WATER SAMPLE
FOR TOTAL METALS BY
INDUCTIVELY COUPLED PLASMA (ICP)
(METHOD 6010)
Results Reported as mg/L (ppm)**

<u>Sample ID</u>	<u>M51441</u>	<u>Method Blank</u>
Analyte:		
Arsenic	0.8	<0.04
Cadmium	<0.05	<0.05
Chromium	0.52	<0.05
Lead	<0.2	<0.2
Silver	<0.05	<0.05
Copper	1.8	<0.05
Nickel	5.1	<0.05
Zinc	<0.05	<0.05

FRIEDMAN & BRUYA, INC.

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QUALITY ASSURANCE RESULTS FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) (METHOD 6010)

Laboratory Code: KJ64243DU

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Arsenic	mg/L (ppm)	0.8	0.7	13	0-20
Cadmium	mg/L (ppm)	<0.05	<0.05	nm	0-20
Chromium	mg/L (ppm)	0.52	0.53	2	0-20
Lead	mg/L (ppm)	<0.2	<0.2	nm	0-20
Silver	mg/L (ppm)	<0.05	<0.05	nm	0-20
Copper	mg/L (ppm)	1.8	2.2	10	0-20
Nickel	mg/L (ppm)	5.1	5.3	4	0-20
Zinc	mg/L (ppm)	<0.05	<0.05	nm	0-20

Laboratory Code: KJ64243MS/KJ64243MD

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Arsenic	mg/L (ppm)	10	0.8	96	97	80-120	1
Cadmium	mg/L (ppm)	5	<0.05	94	100	80-120	6
Chromium	mg/L (ppm)	5	0.52	90	88	80-120	2
Lead	mg/L (ppm)	10	<0.2	102	102	80-120	0
Silver	mg/L (ppm)	2	<0.05	74	74	80-120	0
Copper	mg/L (ppm)	5	1.8	119	112	80-120	6
Nickel	mg/L (ppm)	10	5.1	95	87	80-120	2
Zinc	mg/L (ppm)	5	<0.05	98	106	80-120	8

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery MS	Acceptance Criteria
Arsenic	mg/L (ppm)	10	109	80-120
Cadmium	mg/L (ppm)	5	97	80-120
Chromium	mg/L (ppm)	5	110	80-120
Lead	mg/L (ppm)	10	118	80-120
Silver	mg/L (ppm)	2	93	80-120
Copper	mg/L (ppm)	5	111	80-120
Nickel	mg/L (ppm)	10	112	80-120
Zinc	mg/L (ppm)	5	98	80-120

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

8.6

FRIEDMAN & BRUYA, INC.
3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282

SAMPLE CHAIN OF CUSTODY

KWS AI
11.27.95
10:35

Send Report To: Alaskan Copper Works Contact: Gerard Thompson
Company: 678 Alaskan Address: 50
City, State, Zip: Seattle WA 98134
Phone #: (206) 627-8200 X 379 Date: 11/27

SITE NO.	PROJECT NAME	PURCHASE ORDER #
7238	Revestment Free Liquids	M 51441
SAMPLERS (signature)		PROJECT LOCATION
		3200 6th Ave S
REMARKS		SAMPLE DISPOSAL INFORMATION
		<input type="checkbox"/> Dispose after 30 days <input checked="" type="checkbox"/> Return Samples <input type="checkbox"/> Call for Instructions

Sample #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
M 51441	11/26 1:30 PM	H ₂ O	1	64243	CR CU NI ZN CD Pb As Ag

SIGNATURE	PRINT NAME	COMPANY	Date	Time
Relinquished by:	GERARD A THOMPSON	A.C.W	11/27/95	10:10
Received by:	C. DOWNING	FABT	11.27.95	10:10
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

December 1, 1995

**INVOICE # 95ACU1201-1
DUPLICATE COPY**

Accounts Payable
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

RE: Project Reventment Free Liquids, PO #M51441: Results of testing
requested by Gerry Thompson, Project Leader for material submitted on
November 27, 1995.

1 process water sample analyzed for Total Metals
by Method 6010 @ \$105 per sample

\$ 105.00

Amount Due

\$ 105.00

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

December 1, 1995

Gerry Thompson, Project Leader
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

Dear Mr. Thompson:

Enclosed are the results from the testing of material submitted on November 27, 1995 from your Reventment Free Liquids, PO #M51441 project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Kurt Johnson
Chemist

keh
Enclosures
FAX: 382-7335
ACU1201R.DOC